Abstract

An adjustable multi-band planar antenna especially applicable in mobile terminals. In the structure of the antenna, advantageously on a surface of a dielectric part, there is placed a conductive element (430) having a significant electromagnetic coupling to the radiating plane (422). The arrangement further comprises a filter (440) and a switch (SW) so that the parasitic conductive element at issue can be connected through the filter to a terminal element (TE) connected to the ground plane. That terminal element is pure short-circuit or a reactive element. An antenna's operation band, which is desired to be displaced, situates on pass band of the filter, and another operation band, which is desired not to be effected, situates in stop band of the filter. Controlling the switch causes the electric length of the antenna's part corresponding for example the upper operation band to change measured from the short-circuit point, in which case also the resonance frequency changes and the band is displaced. Only one operation band of the antenna is affected because on the other operation bands a high impedance is "seen" from the parasitic element towards the ground, although the switch is closed.

Fig. 4